[0087] WHAT IS CLAIMED IS:

- 1. A peptide which confers increased pathogen resistance upon a plant expressing said peptide, said peptide having a sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4 mutated at a position selected from the group consisting of Glu271, Trp272 and residues between and including Pro123 to Gly128, an ortholog thereof, a homolog thereof, a functionally active fragment thereof or a functionally active variant thereof.
- 2. A recombinant nucleic acid molecule comprising a sequence which codes for a peptide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3 and SEQ ID NO:4 mutated at a position selected from the group consisting of Glu271, Trp272 and residues between and including Pro123 to Gly128, an ortholog thereof, a homolog thereof, a functionally active fragment thereof or a functionally active variant thereof.
- 3. The recombinant nucleic acid molecule of claim 2, wherein said nucleic acid is DNA.
- A vector containing the recombinant nucleic acid molecule of claim
 2.
- 5. The recombinant nucleic acid molecule of claim 3, wherein said DNA sequence is operatively linked to an expression control sequence.
- 6. An expression vector containing the recombinant DNA molecule of claim 5.
- 7. A method of expressing a recombinant nucleic acid molecule in a cell containing the expression vector of claim 6, comprising culturing

- the cell in an appropriate cell culture medium under conditions that provide for expression of the recombinant DNA molecule by the cell.
- The method of claim 7, further comprising the step of purifying a recombinant product of the expression of the recombinant DNA molecule.
- 9. A cell transformed with the recombinant DNA molecule of claim 2.
- 10. The cell of claim 9, wherein said recombinant DNA molecule is integrated in the genome of said cell.
- The cell of claim 9, wherein said cell is a plant cell.
- 12. A cell expressing the peptide of claim 1.
- 13. A plant comprising the cell of claim 11 or 12.
- 14. A transgenic plant expressing the peptide of claim 1.
- 15. A transgenic plant comprising the recombinant nucleic acid molecule of claim 2.
- 16. The transgenic plant of claim 15, wherein said recombinant nucleic acid is integrated into the genome of said cell.
- 17. A method of increasing pathogen resistance in a plant comprising the steps of: (a) introducing into a cell of said plant a recombinant nucleic acid molecule as defined in claim 2; and (b) expressing said recombinant nucleic acid molecule in said cell.
- 18. A method of increasing pathogen resistance in a plant comprising the steps of: (a) mutating a nucleic acid sequence which codes for p24; and (b) expressing said nucleic acid sequence in said plant, wherein said mutating results in an amino acid substitution in said

- p24 which increases DNA binding affinity of PBF-2 for an elicitor response element (ERE).
- 19. The method of claim 18, wherein said amino acid substitution replaces Pro125 with nothing or a different amino acid.
- 20. The method of claim 18, wherein said amino acid substitution is Pro125 to Leu.
- 21. The method of claim 18, wherein said amino acid substitution replaces Trp272 with nothing or a different amino acid.
- 22. The method of claim 18, wherein said amino acid substitution is Trp272 to Ala.
- 23. The method of claim 18, wherein said amino acid substitution replaces Glu271 with nothing or a different amino acid.
- 24. The method of claim 18, wherein said amino acid substitution is Glu271 to any non-acidic amino acid.
- 25. The method of claim 18, wherein said ERE regulates expression of a pathogenesis-related (PR) gene.
- 26. The method of claim 25, wherein said PR gene is a PR-10 gene.
- 27. The method of claim 26, wherein said PR gene is PR-10a.
- 28. The method of claim 18, wherein the step of mutating a nucleic acid sequence is effected by a chemical mutagen, radiation, natural mutation or a recombinant DNA technique.
- 29. The method of claim 28, wherein said recombinant DNA technique is site-directed mutagenesis.

- 30. A method of increasing pathogen resistance in a plant comprising increasing DNA binding affinity of PBF-2 for an elicitor response element (ERE) of a pathogenesis-related (PR) gene.
- 31. The method of claim 30, wherein increasing DNA binding affinity of PBF-2 for an ERE comprises mutating a C-terminal negative autoregulatory domain of p24, wherein said C-terminal autoregulatory domain inhibits PBF-2 DNA binding and wherein said mutating decreases negative autoregulation of said domain.
- 32. The method of claim 31, wherein said mutating comprises an amino acid substitution in p24.
- 33. The method of claim 32, wherein said amino acid substitution replaces Pro125 with nothing or a different amino acid.
- 34. The method of claim 32, wherein said amino acid substitution is Pro125 to Leu.
- 35. The method of claim 32, wherein said amino acid substitution replaces Trp272 with nothing or a different amino acid.
- 36. The method of claim 32, wherein said amino acid substitution replaces Trp272 with Ala.
- 37. The method of claim 32, wherein said amino acid substitution replaces Glu271 with nothing or a different amino acid.
- 38. The method of claim 32, wherein said amino acid substitution replaces Glu271 with any non-acidic amino acid.
- 39. The method of claim 30, wherein said mutating a C-terminal negative autoregulatory domain is effected by a chemical mutagen, radiation, natural mutation or a recombinant DNA technique.

- 40. The method of claim 39, wherein said recombinant DNA technique is site-directed mutagenesis.
- 41. The method of claim 18, wherein said amino acid substitution replaces a residue between and including Pro123 to Gly128 with nothing or a different amino acid.
- 42. The method of claim 32, wherein said amino acid substitution replaces a residue between and including Pro123 to Gly128 with nothing or a different amino acid.
- 43. A method of increasing pathogen resistance in a plant comprising the step of overexpressing a nucleic acid coding for AtWhy1, StWhy1, an ortholog thereof or an analog thereof.
- 44. A method of increasing pathogen resistance in a plant comprising the step of overexpressing a pathogenesis-related (PR) gene.
- 45. The method of claim 44, wherein said PR gene is a PR-10 gene.
- 46. The method of claim 44, wherein said PR gene is PR-10a.